



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,248	10/25/2005	Yasuharu Koyata	403488/MELCO	3096
23548 7590 02/14/2008 LEYDIG VOIT & MAYER, LTD 700 THIRTEENTH ST. NW SUITE 300 WASHINGTON, DC 20005-3960				
EXAMINER RODRIGUEZ, ARMANDO				
ART UNIT		PAPER NUMBER		
2828				
MAIL DATE		DELIVERY MODE		
02/14/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/554,248

Applicant(s)

KOYATA ET AL.

Examiner

ARMANDO RODRIGUEZ

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-10 and 12-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 8-10, 12 and 17-22 is/are rejected.
- 7) ☒ Claim(s) 3, 4 and 13-16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date ____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed September 7, 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

No copies of non patent literature documents C3, C4 and C5 have been received.

Response to Arguments

Applicant's arguments filed November 2, 2007 have been fully considered but they are not persuasive.

Applicant's arguments on page 10 pertaining to the slab optical waveguide providing beam expansion, reduced power density, heat absorption spread over a wide area and reduction in temperature are considered moot because none of the claims recite such limitations. Furthermore, in accordance with MPEP 2111.01 II IT IS IMPROPER TO IMPORT CLAIM LIMITATIONS FROM THE SPECIFICATION. "Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim."

Applicant's arguments on page 10 pertaining to Chwalk not showing a slab optical waveguide in figures 5A and 5B. Figures 5A and 5B illustrates QPM (19), which

is a wavelength converter including a waveguide (4) with nonlinear material lithium niobate for second harmonic generation. Column 4 lines 54-63, clearly discloses supporting transverse modes (TM) in a direction perpendicular to the plane [applicant's vertical control].

Allowable Subject Matter

The indicated allowability of claim 12 is withdrawn, based on applicant's amendment to broaden the scope of independent claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 5, 8, 9, 17, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Chwalck (US 5,418,802).

Regarding claim 1, 17, 22,

Figures 5A and 5B illustrate a wavelength converting laser device including a laser diode (1), a resonator having a pair of reflector (3) and reflecting surface (7) and a wavelength converter (19). Column 4 lines 54-63 discloses supporting transverse modes (TM) in a direction perpendicular to the plane [applicant's vertical control].

Regarding claim 2,

Figures 5A and 5B illustrates the reflecting surface (7) parallel to the wavefront.

Regarding claim 5,

Figures 5A and 5B illustrates the reflecting surface (7) as Bragg grating integrated with the wavelength converter (19).

Regarding claims 8, 9,

Figures 5A and 5B illustrates the wavelength converter (19) as an QPM periodically poled structure.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chwalck (US 5,418,802) in view of Geiger (US 5,117,126).

Chwalck does illustrate in figures 5A and 5B a wavelength converter (19) made of LiNbO_3 .

Chwalck is silent as to the wavelength converter being made of Mg: LiNbO_3 .

However, it is well known in the art to use wavelength converters made of Mg: LiNbO_3 , as disclosed by Geiger in column 6 lines 39-42.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chwalck (US 5,418,802).

Chwalck illustrates in figures 5A and 5B the limitations of claim 1, except for the resonator, the laser and the wavelength converter being integrated.

However, in accordance with MPEP 2144.04 V B. Making Integral

In re Larson, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965). The court affirmed the rejection holding, among other reasons, "that the use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.").

In the instant application the cited prior art to Chwalck illustrates in figure 5A a gap between the laser and the wavelength converter (19), where the wavelength converter is integrated with the waveguide (4) and the Bragg reflector.

Therefore, with the well known technology of integrated circuits and integrating elements it would be a matter of obvious engineering choice to butt couple or integrate the laser with the wavelength converter.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chwalck (US 5,418,802) in view of Papuchon et al (US 5,128,948).

Chwalck does disclose in figure 5A and 5B a wavelength converting laser device, but is as to the laser producing a green light.

However, it is notoriously well known for wavelength conversion laser devices to produce green light as disclosed by Papuchon et al (US 5,128,948).

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chwalck (US 5,418,802) in view of Byer et al (US 4,809,291).

Chwalck does disclose in figure 5A and 5B a wavelength converting laser device, but is as to the laser producing a blue light.

However, it is notoriously well known for wavelength conversion laser devices to produce green light as disclosed by Byer et al (US 4,809,291).

Claims 20, 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chwalck (US 5,418,802) in view of Yagyu (US 5,856,814).

Chwalck does disclose in figure 5A and 5B a wavelength converting laser device, but is silent as to modulating the beam using a liquid crystal modulator or a digital reflecting means.

However, it is notoriously well known in the art to modulate the light using liquid crystal modulators or digital reflecting means, as described by Yagyu.

Allowable Subject Matter

Claims 3, 4, 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ARMANDO RODRIGUEZ whose telephone number is 571-272-1952. The examiner can normally be reached on 9:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ARMANDO RODRIGUEZ/
Primary Examiner
Art Unit 2828

AR